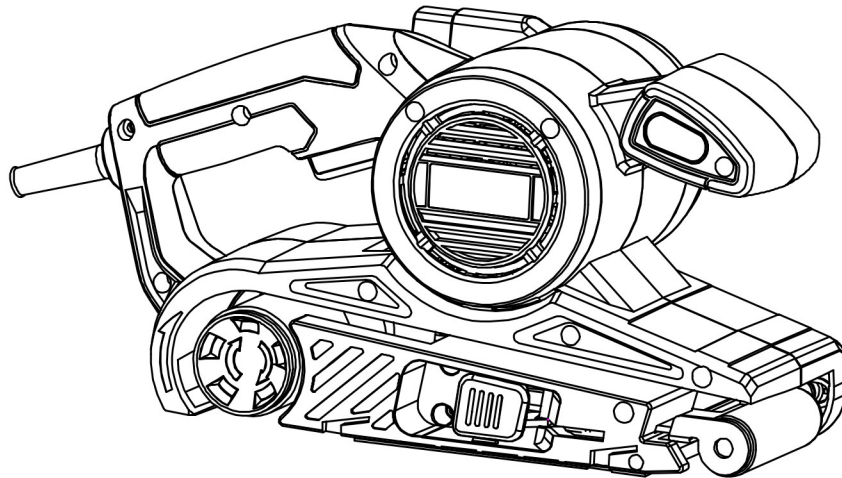




# 3" x 21" Belt Sander



Model # 6321  
[bit.ly/wenvideo](http://bit.ly/wenvideo)


## IMPORTANT:

Your new tool has been engineered and manufactured to WEN's highest standards for dependability, ease of operation, and operator safety. When properly cared for, this product will supply you years of rugged, trouble-free performance. Pay close attention to the rules for safe operation, warnings, and cautions. If you use your tool properly and for intended purpose, you will enjoy years of safe, reliable service.



## NEED HELP? CONTACT US!

Have product questions? Need technical support?  
Please feel free to contact us at:

 **800-232-1195** (M-F 8AM-5PM CST)

 **techsupport@wenproducts.com**

 **WENPRODUCTS.COM**

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## TECHNICAL DATA

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|               |                     |
|---------------|---------------------|
| Model Number: | 6321                |
| Motor:        | 120 V, 60 Hz, 7A    |
| Speed:        | 820 feet per minute |
| Belt Size:    | 3" x 21"            |
| Weight:       | 6 lbs               |

Contents: 3" x 21" Belt Sander, Dust Bag

## GENERAL SAFETY RULES

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Safety is a combination of common sense, staying alert and knowing how your item works. **SAVE THESE SAFETY INSTRUCTIONS.**



**WARNING:** To avoid mistakes and serious injury, do not plug in your tool until the following steps have been read and understood.

1. **READ** and become familiar with this entire instruction manual. **LEARN** the tool's applications, limitations, and possible hazards.
2. **AVOID DANGEROUS CONDITIONS.** Do not use power tools in wet or damp areas or expose them to rain. Keep work areas well lit.
3. **DO NOT** use power tools in the presence of flammable liquids or gases.
4. **ALWAYS** keep your work area clean, uncluttered, and well lit. **DO NOT** work on floor surfaces that are slippery with sawdust or wax.
5. **KEEP BYSTANDERS AT A SAFE DISTANCE** from the work area, especially when the tool is operating. **NEVER** allow children or pets near the tool.
6. **DO NOT FORCE THE TOOL** to do a job for which it was not designed.
7. **DRESS FOR SAFETY.** Do not wear loose clothing, gloves, neckties, or jewelry (rings, watches, etc.) when operating the tool. Inappropriate clothing and items can get caught in moving parts and draw you in. **ALWAYS** wear non-slip footwear and tie back long hair.
8. **WEAR A FACE MASK OR DUST MASK** to fight the dust produced by sawing operations.



**WARNING:** Dust generated from certain materials can be hazardous to your health. Always operate the tool in a well-ventilated area and provide for proper dust removal. Use dust collection systems whenever possible.

9. **ALWAYS** remove the power cord plug from the electrical outlet when making adjustments, changing parts, cleaning, or working on the tool.
10. **KEEP GUARDS IN PLACE AND IN WORKING ORDER.**
11. **AVOID ACCIDENTAL START-UPS.** Make sure the power switch is in the OFF position before plugging in the power cord.
12. **REMOVE ADJUSTMENT TOOLS.** Always make sure all adjustment tools are removed from the saw before turning it on.
13. **NEVER LEAVE A RUNNING TOOL UNATTENDED.** Turn the power switch to OFF. Do not leave the tool until it has come to a complete stop.

## GENERAL SAFETY RULES

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14. **NEVER STAND ON A TOOL.** Serious injury could result if the tool tips or is accidentally hit. **DO NOT** store anything above or near the tool.
15. **DO NOT OVERREACH.** Keep proper footing and balance at all times. Wear oil-resistant rubber-soled footwear. Keep the floor clear of oil, scrap, and other debris.
16. **MAINTAIN TOOLS PROPERLY.** **ALWAYS** keep tools clean and in good working order. Follow instructions for lubricating and changing accessories.
17. **CHECK FOR DAMAGED PARTS.** Check for alignment of moving parts, jamming, breakage, improper mounting, or any other conditions that may affect the tool's operation. Any part that is damaged should be properly repaired or replaced before use.
18. **MAKE THE WORKSHOP CHILDPROOF.** Use padlocks and master switches and **ALWAYS** remove starter keys.
19. **DO NOT** operate the tool if you are under the influence of drugs, alcohol, or medication that may affect your ability to properly use the tool.
20. **USE SAFETY GOGGLES AT ALL TIMES** that comply with ANSI Z87.1. Normal safety glasses only have impact resistant lenses and are not designed for safety. Wear a face or dust mask when working in a dusty environment. Use ear protection such as plugs or muffs during extended periods of operation.

## SPECIFIC RULES FOR THE SANDER

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**WARNING:** Do not operate this tool until it is completely assembled and installed according to the instructions.

1. Wait for the belt to stop before setting the tool down. An exposed rotating belt may engage the surface, leading to possible loss of control and serious injury.
2. Hold the power tool by the insulated gripping surfaces only in case the belt contacts its own cord. Cutting a “live” wire may make exposed metal parts of the tool “live” and could give the operator an electric shock.
3. Secure the workpiece to a stable platform using clamps or another practical method. Holding the work by hand or against the body leaves is unstable and could lead to a loss of control.
4. Secure the material being sanded. Never hold it in your hand or across your legs. Small workpieces must be adequately secured so that the rotating belt doesn't pick them up during the forward motion of the sander. Unstable support causes the belt to bind, resulting in a loss of control and possible injury.
5. Always start the sander before the sanderpaper is in contact with the workpiece. Let the sander reach full speed before using the tool.
6. Check the workpiece for nails. If there are nails, either remove them or set them well below the intended finished surface so that they do not come in contact with the surface of the sander.

## SPECIFIC RULES FOR THE SANDER

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7. Unplug the tool before changing accessories. Accidental start-ups may occur if the tool is plugged in during an accessory change. Before plugging the tool back in, check that the trigger is OFF.
8. After changing sanderpaper, rotate the sanderpaper to make sure the sandpaper doesn't hit any part of the tool.
9. Always hold the tool firmly with both hands for maximum control.
10. Never pull the tool backwards over the workpiece. Loss of control may occur.
11. GFCI and personal protection devices such as electrician's rubber gloves and footwear will increase personal safety.
12. Keep handles and hands dry, clean and free from oil and grease. Slippery surfaces cannot safely maintain control of the power tool.
15. Develop a periodic maintenance schedule for your tool. When cleaning a tool be careful not to disassemble any portion of the tool. Internal wires may be misplaced or pinched and safety guard return springs may be improperly mounted.
16. Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage plastic parts.

## ELECTRICAL INFORMATION

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### GROUNDING INSTRUCTIONS

**IN THE EVENT OF A MALFUNCTION OR BREAKDOWN**, grounding provides the path of least resistance for an electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching outlet that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

**DO NOT MODIFY THE PLUG PROVIDED.** If it will not fit the outlet, have the proper outlet installed by a licensed electrician.

**IMPROPER CONNECTION** of the equipment grounding conductor can result in electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, **DO NOT** connect the equipment grounding conductor to a live terminal.

**CHECK** with a licensed electrician or service personnel if you do not completely understand the grounding instructions or whether the tool is properly grounded.

**CAUTION:** In all cases, make certain the outlet in question is properly grounded. If you are not sure, have a licensed electrician check the outlet.



**WARNING:** This tool is for indoor use only. Do not expose to rain or use in damp locations.

## ELECTRICAL INFORMATION

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### GUIDELINES FOR USING EXTENSION CORDS

| AMPERAGE | REQUIRED GAUGE FOR EXTENSION CORDS |          |          |          |
|----------|------------------------------------|----------|----------|----------|
|          | 25 ft.                             | 50 ft.   | 100 ft.  | 150 ft.  |
| 7 A      | 18 gauge                           | 16 gauge | 14 gauge | 12 gauge |

Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The table below shows the correct size to be used according to cord length and nameplate ampere rating. When in doubt, use a heavier cord. The smaller the gauge number, the heavier the cord.

Make sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.

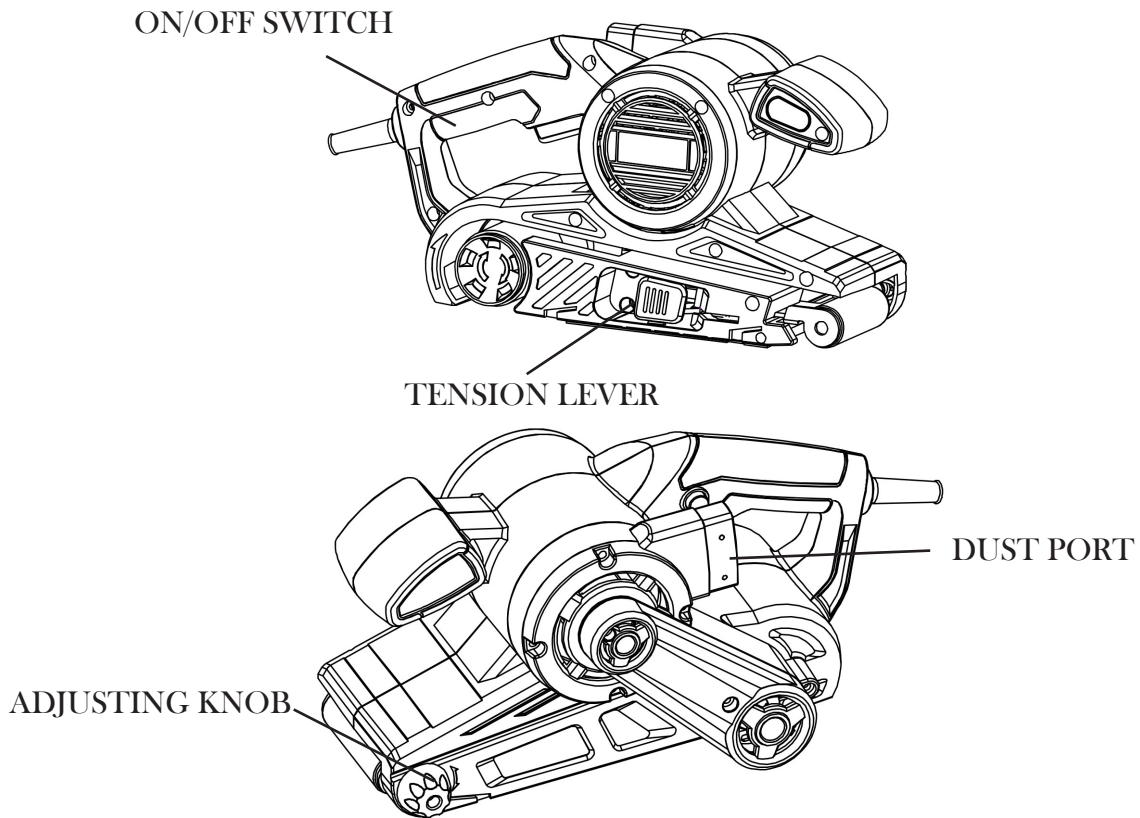
Protect your extension cords from sharp objects, excessive heat and damp/wet areas.

Use a separate electrical circuit for your tools. This circuit must not be less than a #12 wire and should be protected with a 15 A time-delayed fuse. Before connecting the motor to the power line, make sure the switch is in the OFF position and the electric current is rated the same as the current stamped on the motor nameplate. Running at a lower voltage will damage the motor.

**WARNING:** This tool must be grounded while in use to protect the operator from electric shock.

## KNOW YOUR SANDER

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## ASSEMBLY AND ADJUSTMENTS

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### REMOVING OR INSTALLING ABRASIVE BELT



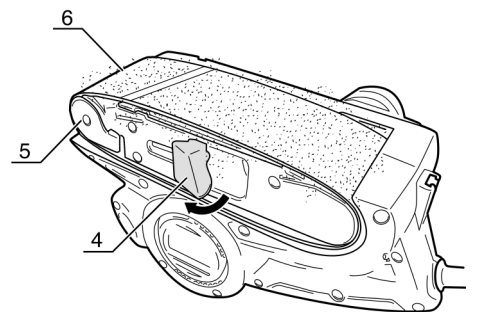
**WARNING:** To avoid injury from accidental startups, turn switch OFF and remove the plug from the power source outlet before making any adjustments.

1. Turn the tool upside down and pull the tension lever (4) to retract the front roller and release the belt tension.
2. Slide the abrasive belt (6) off.
3. Mount a new abrasive belt.

**CAUTION:** Be sure that the arrow on the inside of the belt is pointing the same direction as that of the tool.

4. Push the tension lever down to the original position.

**CAUTION:** Ensure that your fingers are not trapped while adding tension back to the sander.



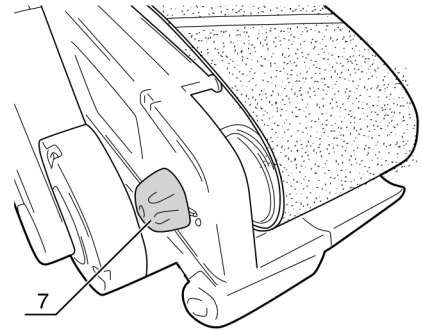
## ASSEMBLY AND ADJUSTMENTS

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### ADJUSTING BELT TRACKING

The belt life will be increased by using the tracking adjustment.

1. Turn the tool upside down and hold it firmly with one hand. Then start the tool and observe the tracking of the sanding belt.
2. Stop the tool and adjust the tracking of the belt by rotating the adjusting knob (7) until the edge of the belt is even with the outer edges of both the front and rear rollers.



**CAUTION:** Check that the belt doesn't rub against the tool's frame.

## OPERATION

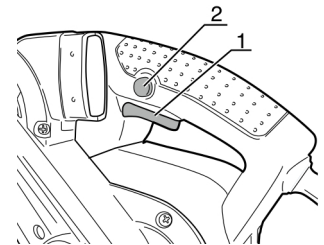
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**CAUTION:** Never cover air vents since they must always be open for proper motor cooling.

**CAUTION:** Make sure that the work piece is free of nails and other foreign objects that could tear the abrasive belt.

### SWITCH

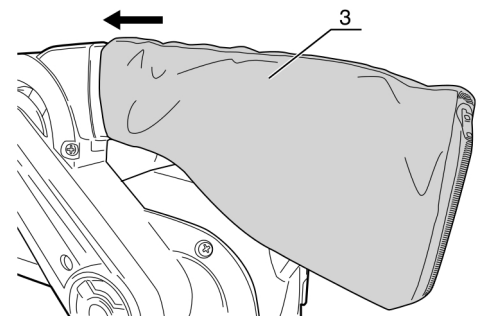
This tool is started and stopped by squeezing and releasing the trigger (1). For continuous operation, press the lock-on button (2) while trigger is being squeezed. Squeeze trigger again to release the lock.



### DUST BAG

When sanding wood, the dust bag should be used. Although the dust bag has a substantial capacity, it should be emptied frequently. Opening the zipper of the dust bag allows complete cleaning.

**CAUTION:** When sanding metal, the dust bag should not be used, because of the risk of fire from flying sparks.





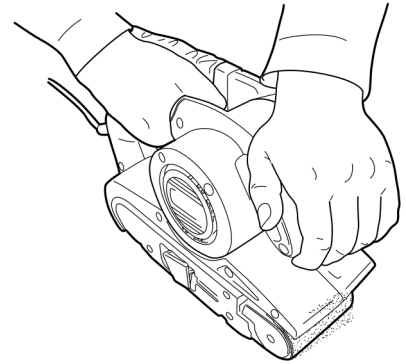
## OPERATION

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Hold the tool firmly with both hands. Turn the switch on and permit the rotation of the abrasive belt to reach full speed.

Then gently place the tool on the work piece surface. Move the tool back and forth. Never exert excessive pressure on the tool. The weight of the tool applies adequate pressure. Excessive pressure will retard the abrasive action, leave an uneven finish and cause extra wear to both the tool and the abrasive belt.

Always lift the tool off the work piece before turning the switch off.



## MAINTENANCE

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**SERVICE:** Preventive maintenance performed by unauthorized personnel may result in misplacing of internal wires and components, possibly causing a serious hazard. We recommend that all tool service be performed by an authorized WEN service station.

**TOOL LUBRICATION:** Your tool has been properly lubricated and is ready to use. It is recommended that tools with gears be regreased with a special gear lubricant at every brush change.

**CARBON BRUSHES:** The brushes in your tool have been engineered for many hours of dependable service. To maintain peak efficiency of the motor, we recommend examining the brushes every two to six months. Only genuine WEN replacement brushes designed specifically for your tool should be used.

**CLEANING:** Ventilation openings and switch levers must be kept clean and free of foreign matter. Do not attempt to clean these components by inserting pointed objects through openings.

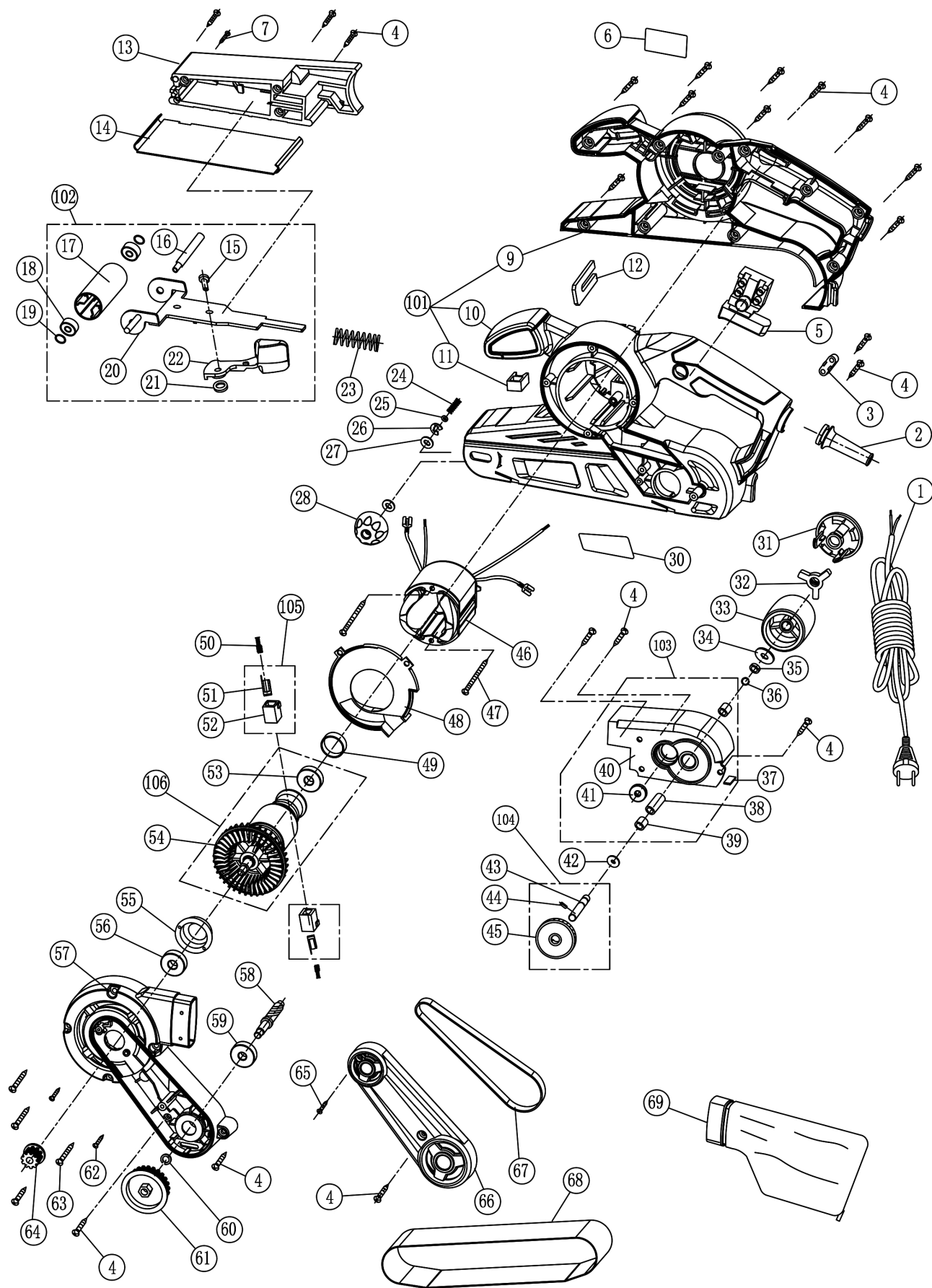


**WARNING:** To avoid accidents, always disconnect the tool from the power supply before cleaning or performing any maintenance. The tool may be cleaned most effectively with compressed dry air. Always wear safety goggles when cleaning tools with compressed air.



**WARNING:** Certain cleaning agents and solvents damage plastic parts. Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia.

# EXPLODED VIEW AND PARTS LIST



## EXPLODED VIEW AND PARTS LIST

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| Item | Stock #  | Description         |
|------|----------|---------------------|
| 1    | 6321-001 | Power Cord          |
| 2    | 6321-002 | Cord Protector      |
| 3    | 6321-003 | Cord Clamp          |
| 4    | 6321-004 | Screw               |
| 5    | 6321-005 | Switch              |
| 6    | 6321-006 | Label               |
| 7    | 6321-007 | Screw               |
| 9    | 6321-009 | Right Housing       |
| 10   | 6321-010 | Centra Housing      |
| 11   | 6321-011 | Ceramic Plate       |
| 12   | 6321-012 | Support Block       |
| 13   | 6321-013 | Clamp Device        |
| 14   | 6321-014 | Base Plate          |
| 15   | 6321-015 | Rivet 6             |
| 16   | 6321-016 | Pin                 |
| 17   | 6321-017 | Roller              |
| 18   | 6321-018 | Bearing 626-2Z      |
| 19   | 6321-019 | Adjustment Washer 8 |
| 20   | 6321-020 | Fork                |
| 21   | 6321-021 | Wahser 6            |
| 22   | 6321-022 | Spanner             |
| 23   | 6321-023 | Big Spring          |
| 24   | 6321-024 | Support Spring      |
| 25   | 6321-025 | Retaining Ring      |
| 26   | 6321-026 | Washer 7            |
| 27   | 6321-027 | Washer 8            |
| 28   | 6321-028 | Adjustment Knob     |
| 30   | 6321-030 | Nameplate           |
| 31   | 6321-031 | Rear Roller Cover   |
| 32   | 6321-032 | Nut                 |
| 33   | 6321-033 | Drum Roller         |
| 34   | 6321-034 | Wahser              |
| 35   | 6321-035 | Washer              |
| 36   | 6321-036 | Snap Ring 8         |
| 37   | 6321-037 | Ceramic plate       |
| 38   | 6321-038 | Locate Sleeve       |
| 39   | 6321-039 | Needle Bearing      |

| Item | Stock #  | Description       |
|------|----------|-------------------|
| 40   | 6321-040 | Aluminium Support |
| 41   | 6321-041 | Bearing 626-Z     |
| 42   | 6321-042 | Adjustment Washer |
| 43   | 6321-043 | Driven Shaft      |
| 44   | 6321-044 | Pin 3             |
| 45   | 6321-045 | Big Gear          |
| 46   | 6321-046 | Stator Assembly   |
| 47   | 6321-047 | Screw             |
| 48   | 6321-048 | Fan Baffle        |
| 49   | 6321-049 | Washer            |
| 50   | 6321-050 | Carbon Brush      |
| 51   | 6321-051 | Brush Holder      |
| 52   | 6321-052 | Brush Support     |
| 53   | 6321-053 | Bearing 626-2Z    |
| 54   | 6321-054 | Rotor             |
| 55   | 6321-055 | Bearing Cover     |
| 56   | 6321-056 | Bearing 608-2RS   |
| 57   | 6321-057 | Left Housing      |
| 58   | 6321-058 | Pinion Shaft Gear |
| 59   | 6321-059 | Bearing 627-2Z    |
| 60   | 6321-060 | Washer 7          |
| 61   | 6321-061 | Big Driving Gear  |
| 62   | 6321-062 | Screw             |
| 63   | 6321-063 | Screw             |
| 64   | 6321-064 | Small Pulley      |
| 65   | 6321-065 | Screw             |
| 66   | 6321-066 | Belt Cover        |
| 67   | 6321-067 | Drive Belt        |
| 68   | 6321-068 | Sandpaper         |
| 69   | 6321-069 | Dust Bag          |
| 101  | 6321-101 | Housing Assembly  |
| 102  | 6321-102 | Fork Assembly     |
| 103  | 6321-103 | Support Assembly  |
| 104  | 6321-104 | Shaft Assembly    |
| 105  | 6321-105 | Brush assembly    |
| 106  | 6321-106 | Rotor Assembly    |
|      |          |                   |

## LIMITED TWO YEAR WARRANTY

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WEN Products is committed to building tools that are dependable for years. Our warranties are consistent with this commitment and our dedication to quality.

### LIMITED WARRANTY OF WEN CONSUMER POWER TOOLS PRODUCTS FOR HOME USE

GREAT LAKES TECHNOLOGIES, LLC ("Seller") warrants to the original purchaser only, that all WEN consumer power tools will be free from defects in material or workmanship for a period of two (2) years from date of purchase. Ninety days for all WEN products, if the tool is used for professional use.

**SELLER'S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY** under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must make sure to keep a copy of your proof of purchase that clearly defines the Date of Purchase (month and year) and the Place of Purchase. Place of purchase must be a direct vendor of Great Lakes Technologies, LLC. Third party vendors such as garage sales, pawn shops, resale shops, or any other secondhand merchant void the warranty included with this product. Contact [techsupport@wenproducts.com](mailto:techsupport@wenproducts.com) or 1-800-232-1195 to make arrangements for repairs and transportation.

When returning a product for warranty service, the shipping charges must be prepaid by the purchaser. The product must be shipped in its original container (or an equivalent), properly packed to withstand the hazards of shipment. The product must be fully insured with a copy of the warranty card and/or the proof of purchase enclosed. There must also be a description of the problem in order to help our repairs department diagnose and fix the issue. Repairs will be made and the product will be returned and shipped back to the purchaser at no charge.

**THIS LIMITED WARRANTY DOES NOT APPLY TO ACCESSORY ITEMS THAT WEAR OUT FROM REGULAR USAGE OVER TIME INCLUDING BELTS, BRUSHES, BLADES, ETC.**  
**ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION TO TWO (2) YEARS FROM DATE OF PURCHASE. SOME STATES IN THE U.S., SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.**

**IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S. AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.**

**THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE IN THE U.S., PROVINCE TO PROVINCE IN CANADA AND FROM COUNTRY TO COUNTRY.**

**THIS LIMITED WARRANTY APPLIES ONLY TO PORTABLE ELECTRIC TOOLS, BENCH POWER TOOLS, OUTDOOR POWER EQUIPMENT AND PNEUMATIC TOOLS SOLD WITHIN THE UNITED STATES OF AMERICA, CANADA AND THE COMMONWEALTH OF PUERTO RICO. FOR WARRANTY COVERAGE WITHIN OTHER COUNTRIES, CONTACT THE WEN CUSTOMER SUPPORT LINE.**